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STORAGE OF BULL SEMEN AT —79°C. AND FERTILITY RESULTS FOR UP TO 12 MONTHS

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Considerable progress has been made during the last year in the technique of preserving semen at very low temperatures, and the possibility of storing frozen semen for very long periods promises great practical advances in artificial insemination. Following the first report that bull spermatozoa could be protected against the damaging effects of freezing and thawing by the addition of glycerol (Smith & Polge, 1950), it was shown that bull semen retained normal fertilising capacity when kept frozen at — 79° C. for relatively short periods of time (Polge & Rowson, 1952a, b). Fertility results obtained with bull semen kept at — 79° C. for up to 32 weeks were described later by Polge & Rowson (1952c). Results were also given of inseminations carried out with semen diluted up to 1 : 40.

The work described in this paper is a continuation of the experiments outlined at that time, together with a description of methods of storage. The technique of freezing the semen used throughout has been the same as that described in previous papers (Polge & Rowson, 1952a, b). In the long-term storage experiment the dilution of the semen was maintained at 1 : 4 (Table I).

TABLE I

LONG-TERM STORAGE OF BULL SEMEN AT — 79° C.
(Dilution 1 : 4. Concentration of glycerol in semen 10%)

Age of semen (weeks)	Number of cows	Conception rate (%)	Reference
1–4	16	50	+
5–8	16	69	+ 1
9–12	16	63	+
13–16	16	63	+ 2
17–20	16	50	+
21–24	16	69	+
25–28	16	38	A
29–32	16	56	A
33–36	16	69	B
37–40	16	69	C
41–44	16	56	D
45–48	16	75	E
49–52	16	75	E
	Total 208	Average 65	

\+ = All animals calved.
+1 = One animal sold, but checked as pregnant.
+2 = One animal died, but was found pregnant.
A = Non-returns at a minimum of eight months from insemination. Fertility depressed by bull O.W.E.
B = Non-returns after seven months.
C = Non-returns after five months.
D = Non-returns after four months.
E = Non-returns after three months.

Table I indicates results obtained with frozen semen up to one year's storage; there is no sign of reduction in fertilising capacity during this period. Cows which became pregnant to inseminations during the first six months of the experiment have now calved and all the calves appear normal in every respect. Three abortions have occurred, but the proportion cannot be considered abnormal. The overall conception rate, 65 per cent., is based on a minimum non-return period of three months, but as half of the cows involved have already calved, this assessment can be considered extremely critical. The fertility results obtained have been influenced to some extent by the inclusion of inseminations from a 16-year-old bull, O.W.E., whose fertility was known to be below normal. This was particularly noticeable during the period 25 to 32 weeks when his semen was used rather extensively. The influence this has had on the overall conception rate can be seen from Table II, which shows the number of first services and conception rates of the eight bulls used in this experiment.

TABLE II

RESULTS OF INDIVIDUAL BULLS IN LONG-TERM STORAGE EXPERIMENT

Bull	Number of services	Conception rate (%)
H.H.K.	76	74
H.D.K.	20	70
S.I.S.	37	70
O.W.E.	25	24
T.S.C.	14	71
L.H.	15	87
L.S.	13	54
L.U.	8	38
Total	208 Average	65

A further experiment on the effect of freezing semen diluted to a greater degree than previously described has been carried out. Semen from two bulls was diluted 1 : 100, frozen in the usual way and stored at — 79° C. Twelve cows were inseminated after a period of storage varying from 2 to 24 days, and seven of these proved to be pregnant, a conception rate of 58 per cent. This can be considered reasonable fertility on the small number of cows involved.

In the early stages of these experiments the frozen semen was stored in vacuum jars containing CO_2 and alcohol at — 79° C. The vacuum jars were themselves stored in a large insulated metal tank containing blocks of solid CO_2 (Polge & Lovelock, 1952). Although this system was extremely efficient as regards maintaining a steady temperature below —70° C., it was impossible to store large numbers of ampoules of frozen semen. It was decided, therefore, to experiment with a number of different types of storage unit with a view to designing one which would maintain efficient temperature control below — 70° C., have a large storage capacity and give easy access to the ampoules of frozen semen. Two types of container were used. The first consisted of a vertical bank of trays between two banks of solid CO_2, the whole being contained in a heavily insulated box constructed of wood and expanded ebonite. A door opened at the front to allow access to the tray compartment,

but access to the CO_2 compartments on each side was from the top. The trays were filled with alcohol at — 79° C. and were divided into compartments which held the ampoules (Fig. 1). This type of store was found to be very effective as far as maintaining a low temperature was concerned, but there was a considerable loss of cold air when the front door was opened, and the amount of storage space was limited.

The second type of container, therefore, was constructed with the CO_2 storage compartment above the trays of semen, being separated from them by a thin sheet of metal. This store was made by putting a false bottom in a large galvanised iron water tank and cutting away the lower portion of the front to allow access to the tray section (Fig. 2). The whole tank was insulated with 6 inches of expanded ebonite with a heavy hinged door sealing the tray compartment. (Plate I.) This compartment was itself divided into three sections, each sealed from the other so that if one section was opened the cold air in the next one was not lost. Individual expanded rubber plugs were fitted to each compartment so that these remained closed even when the main door was opened. This type of store was very satisfactory from the point of view of access and storage of ampoules. The one illustrated would hold 9,000 ampoules 1 cm. in diameter. It was found, however, to be rather erratic as regards temperature control. A new store, incorporating principles from the first and second units, is now under construction, and there seems little doubt that it will be highly satisfactory. The CO_2 compartment passes above and down the sides and back of the tray section, and there is a channel for cold air to run underneath the trays as well (Fig. 3).

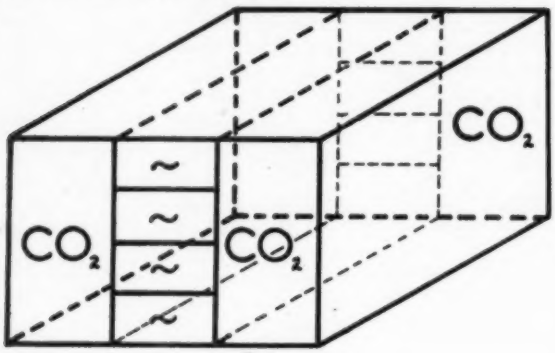

Fig. 1

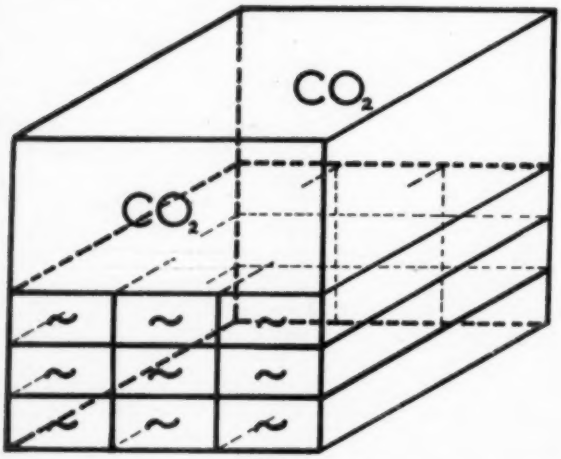

Fig. 2

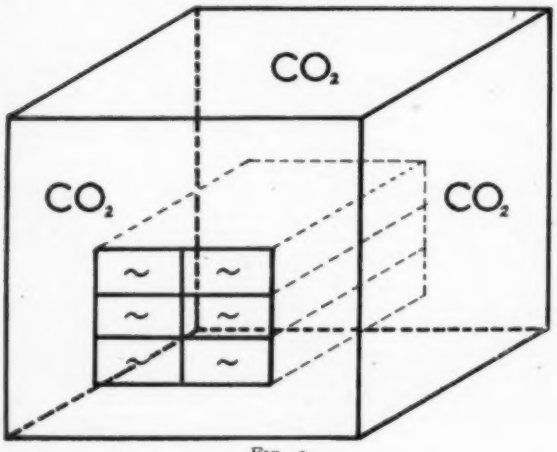

Fig. 3

We find from experience that a cabinet opening at the front, although losing something in efficiency, is much easier to manage than one which opens at the top. Trays holding alcohol at — 79° C. have a large enough heat capacity not to warm up when the cabinet is opened for short periods of time. A storage unit using solid CO_2 is cheap and efficient and so long as the " bank " of CO_2 is large enough it needs little attention. The possibilities of suitable electrical refrigeration are being investigated, however, and it is probable that eventually an apparatus which is not too expensive will be devised.

The progress of these experiments so far indicates that semen maintained at — 79° C. will give satisfactory results as regards fertility after periods of at least 12 months when

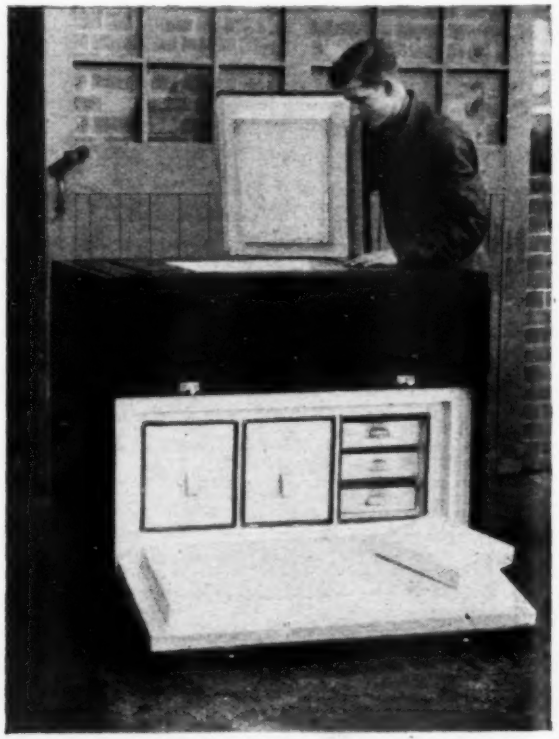

Plate I.

stored at low dilutions, while dilutions as high as 1 : 100 are compatible with fertility for periods of storage of at least 24 days, which is the longest tried so far. The impression is gained, however, that the live spermatozoa in the semen stored for 16 months at — 79° C. have been very slightly reduced in number as compared with semen stored for shorter periods. It has already been shown that fowl spermatozoa maintain fertility for a longer time at — 192° C. than at — 79° C. (Polge & Parkes, 1952), and it may be that for very long-term storage of bull semen, of the order of tens of years, it will be necessary to store it at a lower temperature than that of solid CO_2. With this in view, semen has been stored in liquid air. The procedure for freezing the semen was exactly the same as that already described (Polge & Rowson, 1952a, b) except that after the ampoules of semen had reached the temperature of — 70° C. they were transferred directly to a liquid air store. There is no reduction in the number of spermatozoa which survive freezing in liquid air as compared with the number which survive freezing in solid CO_2. Semen thawed after 15 months at — 192° C. has shown a similar revival rate as semen thawed after only one week's storage. Few inseminations have been carried out with semen frozen in liquid air, but two cows inseminated with semen stored for 15 months both had fertilised eggs in their fallopian tubes when they were slaughtered two days later.

It is unlikely, however, that the storage of large quantities of semen in liquid air would ever be an economical proposition.

Summary

1. Bull semen diluted 1 : 4 in the presence of 10 per cent. glycerol has maintained normal fertilising capacity during one year's storage at — 79° C.

2. Seven out of 12 cows became pregnant following insemination with semen diluted 1 : 100 and kept frozen at — 79° C. for 2 to 24 days.

3. Bull semen frozen at — 192° C. in liquid air showed similar motility on thawing as semen frozen at — 79° C. in solid CO_2.

4. A number of " deep-freeze " storage units are described.

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The new session of the University of Edinburgh opened on October 6th; the outstanding event of the session will be the installation of the Duke of Edinburgh as Chancellor of the University, which takes place in the McEwan Hall on Wednesday, November 4th, on which occasion a number of Honorary Degrees will be conferred on persons of eminence. During the early weeks of the autumn term seven professors will deliver their inaugural lectures; they include the following who have been appointed to the three new Chairs which have been founded in the Royal (Dick) School of Veterinary Studies: Professor W. M. Mitchell, William Dick Professor of Veterinary Surgery; Professor G. F. Boddie, William Dick Professor of Veterinary Medicine; Professor Alexander Robertson, William Dick Professor of Veterinary Hygiene and Preventive Medicine.

THE EFFECT OF GLYCEROLISATION OF BULL SEMEN ON FERTILITY—II

BY

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As already reported (Holt, 1953) the addition of glycerol to bull semen resulted in a significant rise in the conception rate of bulls kept at the A.I. centre at Dartington, an overall increase of 4·3 per cent. being obtained when glycerol was added.

Further examination of the results has given more information as to how this increase was achieved. As stated in my earlier communication, four bulls gave a significant alteration of conception rate while in five others the difference was not significant. If these two groups are tabulated the following are the results:—

Table I
Bulls Showing Significant Improvement

Bull	Number of first inseminations		Per cent. conception at three months	
	Control	Glycerolised	Control	Glycerolised
C.L.	287	268	52·6	66·4
D.M.	1,071	1,064	61·7	66·3
R.F.	540	563	53·7	69·5
S.N.	1,096	1,125	61·6	66·4
Total ...	2,994	3,020	59·3	67·0

Table II
Bulls Not Showing Significant Improvement

Bull	Number of first inseminations		Per cent. conception at three months	
	Control	Glycerolised	Control	Glycerolised
A.R.	700	736	69·3	69·7
D.L.	539	556	61·5	64·1
E.F.	699	708	68·5	70·3
P.J.	472	482	61·4	58·2
S.G.	298	285	68·2	68·9
Total ...	2,708	2,767	66·0	66·7

By comparing the conception rates in the totals of each table, it will be seen that where improvement has occurred it has been achieved by raising a rather low conception rate of 59·3 to 67·0, *i.e.*, to a level almost identical with the conception rate of the non-significant group. In other words, the improvement has resulted in the raising of a somewhat low conception rate rather than improving an already satisfactory one.

One is not prepared at this stage to suggest how this improvement has been brought about, but these results do give a similar picture to those obtained by many workers in the field of antibiotics where again low conception has improved up to a satisfactory standard without an appreciable alteration of the conception rate of bulls of satisfactory fertility. It may be that biochemical action is the basis of improvement in each case and further investigation would appear to be indicated.

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SOME CLINICAL AND MICROSCOPIC FEATURES OF *MICROSPORUM CANIS* BODIN INFECTION OF THE SKIN AND ITS APPENDAGES AS IT OCCURS IN THE CAT

BY

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CLINICAL FEATURES

Microsporosis in cats and kittens due to *M. canis* is seldom noticed except when human contacts of these animals are found to be suffering from ringworm. The reason for this is that in many cases the lesions are not readily detectable (Wooldridge, 1934; Marples, 1951; La Touche, 1952; and others). A Wood's lamp is now an indispensable aid in the examination of cats and kittens suspected of harbouring this fungus. The animals concerned may carry only a few infected hairs which may be overlooked even when a Wood's lamp is used if all the hair-bearing body surface is not subjected to a prolonged and careful examination. On the other hand, extensive areas of infected hair may pass unobserved if a Wood's lamp is not used. In many such cases, no scaling or crusting may be observed though scaling is often profuse in the secondary lesions of adult cats debilitated by systemic disease, and in the naturally acquired lesions of some kittens. I found crusting, in the form of obvious reddish-brown crusts, in only four adult cats out of some 45 cats and kittens naturally infected with *M. canis*. In some of the crusts, infected hairs could be detected because their projecting portions fluoresced green in Wood's light; but some could be so detected only when the crusts were removed. Mild degrees of inflammatory reaction have been observed by me in the lesions of some kittens which had become infected by natural means; these varied from slight exudation of plasma which caused matting of scales to a more intense reaction resulting in a yellow incrustation of the lesion consisting of plasma and leucocytes. (Fig. 1.)

No doubt mild degrees of scaling with or without exudation of plasma and leucocytes are often overlooked even when Wood's light is used to examine the infected sites; indeed, scaling may be so trifling that a X 10 lens may be necessary to show it. The lesions, moreover, vary greatly in different parts of the same animal, partly because the degree of development varies in successive lesions and partly because the degree of inflammatory reaction varies very greatly. It is possible also that particular strains of *M. canis* may give rise to inflammatory reaction while others do not.

Depilation, resulting in bare patches is, in my experience, of rare occurrence in this district (Leeds city), and is usually accompanied by profuse scaling; milder degrees resulting in slight thinning of the hair in the affected site are of more frequent occurrence both in cats and kittens, but are usually masked by overlapping healthy fur from the skin around the lesion.

Sometimes, some of the whiskers or eyebrow bristles are involved, and when this is the case they fluoresce very brightly in Wood's light. Seen in natural light, these are cream-coloured; in addition, their distal portion may be broken off.

Infection of the claw also may occur as I have been able to observe recently. This was an accidental discovery during a check-up examination in Wood's light of a cat which had been under observation for over 16 months and was apparently clear of infection except for one infected hair inside the left ear. The entire claw in question, which was significantly situated on the left hind paw, emitted a characteristic bright green fluorescence. In natural light it was somewhat opaque and mottled irregularly with whitish macules and thus contrasted with other unaffected claws of the same paw which were a uniform greyish colour and somewhat pellucid. As hitherto no special attention had been paid to the claws during examination it is impossible to say how long this claw has been infected. Needless to say, microscopic examinations have been made and cultures set up and both these procedures have substantiated the findings under Wood's light. This, to my knowledge, is the first case on record of cat claw infection by *M. canis*. It is, of course, well known that under artificial conditions of culture human nail material provides a nutrient medium for the culture of many dermatophytes including *M. canis* and that infection of the human nail by species of *Trichophyton* as well as by *Epidermophyton floccosum* frequently occurs.

Microscopic features of infection by M. Canis.—In lesions caused by *M. canis* in cats and kittens the invasion of the tissues is limited, as it is in other animals and in man, to the keratinised layer of the skin and its appendages. The reason for this is that this fungus has a special affinity for keratin, a feature which it shares with other dermatophytes.

Scales.—In the desquamated epithelium of scaling lesions of adult cats and kittens abundant mycelium is present for varying periods up to several weeks from the observed onset of desquamation. Plate I (*a*) shows the mycelium stained with methylene blue. Only the protoplasm of the hyphae is stained; it is represented by a linear series of dark bands interrupted by clear intervals which represent the unstained cell-wall seen also as clear strips on either side of these dark bands; the shrinkage of the protoplasm from the cell-wall during the fixing of the material gives the illusion that the cell-wall is much thicker than it actually is. Plate I (*b*) shows mycelium in an epidermal scale in which there is also a patch of leucocytes.

Hairs.—When the mycelium attacks the hairs its hyphae may be seen clearly on the surface of the cuticle of the hair-shaft in stained preparations. [Plate I (*c*).] Some of these hyphae are very wide, much wider than those which are found later on. They grow down along the intrafollicular portion of the hair, branching or forking only sparsely at first; penetration between the overlapping scales of the hair cuticle by inwardly growing hyphae takes place here and there along the hair-shaft. [Plate I (*d*).] In time, the cortex and medulla are invaded, the hyphae pursuing a downward course towards the bulb, branching repeatedly by means of downwardly directed bifurcations. The usual and quite correct view is that this process never extends to the hair bulb; the mycelium invades the whole of the intrafollicular portion of the hair-shaft but invariably spares the keratin-free bulb which therefore remains alive and adds further substance to the hair. The intrapilar fringe of mycelium was first described in the human hair and figured by Adamson (1895) and has since been generally coupled with his name, in the term "Adamson's fringe." Plate II (*g* & *h*) illustrates it in the hair of the cat. Invasion of the bulb, however, does occur in dead aborted hairs or in hairs which have become separated from the papilla in the process of shedding. Such hairs are frequently encountered in collections of hair from infected patches. In their descrip-

C. J. LA TOUCHE: *M. CANIS* BODIN INFECTION OF THE SKIN AND ITS APPENDAGES IN THE CAT

FIG. 1.

ILLUSTRATIONS.

FIG. 1.—Hind paw of five-week-old kitten showing scaling of toe lesion with some incrustation.

FIG. 2.—Scaling lesion at base of ear of four-year-old tom cat.

PLATE I.

(*a*) Mycelium in epithelial scale from *stratum corneum* of kitten. Stained with Loeffler's meth. blue. × 514.

(*b*) Mycelium accompanied by patch of polymorph leucocytes in epithelial scale from *stratum corneum* of kitten. Stained with Loeffler's meth. blue. × 514.

(*c*) Mycelium on surface of shaft of small hair of kitten. Stained with meth. blue. × 514.

(*d*) Hyphae penetrating between scales of kitten hair. Stained with Loeffler's meth. blue. × 514.

PLATE II.

(*e*) Spore sheath on surface of kitten hair. Stained with Loeffler's meth. blue. × 514.

(*f*) Spore sheath on kitten hair seen in optical section. Stained with Loeffler's meth. blue. × 514.

(*g*) Cat hair root with bulb showing Adamson's fringe in lower part of shaft. Stained with Loeffler's meth. blue. × 200.

(*h*) The same as (*g*). × 514.

PLATE III.

(*i*) Cat hair *in situ* in follicle showing mycelium and spores of *M. canis*. There is no inflammatory reaction in the surrounding tissues. Stained P.A.S. and Haem. × 200.

(*j*) Transverse section of cat whisker *in situ* in follicle showing dense growth of mycelium of *M. canis* in cortex of shaft and spore sheath encircling shaft. Stained P.A.S. and Haem. × 200.

FIG. 2.

(*a*)

(*b*)

(*c*)

(*d*)

PLATE I.

(c)

(d)

(g)

(h)

PLATE II.

(5)

(6)

PLATE III.

tions of human hair infected by *M. canis* this fact was recorded by Fox & Blaxall (1896) and confirmed later by Sabouraud (1910). Sooner or later, the downwardly growing mycelium on the surface of the intrafollicular portion of the hair-shaft undergoes repeated sub-division to form the so-called arthrospores. These are either spherical or polyhedral structures about 2 to 3μ in diameter, and are well seen in 10 per cent. caustic potash solution. They are produced in great quantity, at first in patches, but later in a more or less continuous mosaic-like layer which completely ensheaths the intrafollicular portion of the hair-shaft. [Plate II(*e*).] As more and more spores continue to be formed they accumulate in a thick layer around the hair-shaft, the last formed lying nearest to the surface of the hair. The width of this spore layer, better known as the spore sheath, may be appreciated by focussing down on the hair and viewing it in optical section. [Plate II (*f*).] As the hair continues to grow it carries with it out of the follicle part of the spore sheath previously formed within the follicle, so that, ultimately, the extrafollicular part of the spore sheaths may be of considerable length unless, as often happens, it is broken off with the hair. Occasionally, spores have been observed by me in quantity in the medulla of the hair in addition to those which were present on the surface of the hair-shaft. In such cases the medulla appeared to be wider than the average and the spores could be seen clearly interspersed amongst the disintegrated medullary cells. No doubt this represents an advanced stage of invasion of the hair-shaft by the mycelium which thus undergoes fragmentation into spores in the spaces afforded by the disintegration of the medullary cells.

Whiskers.—In the stained preparations of whiskers *in situ* in their follicles which have been examined by me, the growth of the mycelium in them is so dense as to preclude detailed description. In these preparations much mycelium may be observed in the cortex but none in the medulla nor in the bulb which is papillate. A thick spore sheath surrounds the intrafollicular portion of the hair-shaft. [Plate III (*j*).]

In concluding these observations I must add that, although my experience, by and large, confirms the general belief that ringworm in cats due to *M. canis* is found most frequently in kittens, a not inconsiderable number of the cats are adult and that, furthermore, infection *de novo* and reinfection do sometimes occur in adult cats.

Acknowledgments.—My sincere thanks are due to Dr. Ingram and other colleagues of the Department of Dermatology of the Leeds General Infirmary for their co-operation in referring to me ringworm patients whose cats were obtained for investigation; to Dr. I. G. Davies, of the Department of Public Health, and his staff for much help; to Professor Oakley, of the Department of Bacteriology, for suggestions regarding the text of this paper; to the clinical photographers of the L.G.I., Mr. A. Pegg and Mrs. M. Clayson, for their painstaking work in securing the photographs and processing my photomicrographs; and finally to my technician, Mr. R. Forster, for much valuable technical assistance throughout these investigations.

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CLINICAL COMMUNICATIONS

A CASE OF DELAYED OR SPONTANEOUS RUPTURE OF THE SPLEEN IN A DOG

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Norwich

Subject.—An eight-year-old Aberdeen terrier dog.

The dog was apparently in good health until two days before professional advice was summoned. On this day the owner noticed that the dog was walking rather stiffly on its hind legs and holding its tail down. On returning home the dog had made a normal meal but seemed to be very thirsty. There was a progressive deterioration in the animal's condition over the ensuing two days, and advice was then sought.

Examination.—The dog barked when the writer entered the room and got up and wagged his tail. The owner reported anorexia, great thirst, slight vomiting and some straining efforts. Thinking that these latter were a consequence of constipation she had administered liquid paraffin.

Body temperature was 104° F., pulse soft and weak and the visible mucous membranes anaemic. The breath was inoffensive and there was no evidence of ocular or nasal discharge. Enquiry elicited the information that only a very small quantity of urine had been passed during the preceding 24 hours. Abdominal palpation was not resented and revealed a large fluctuating globular swelling in the lower half of the abdomen above the region of the umbilicus. The dog was put out in the garden and walked about rather stiffly ; then it squatted down in the position of a urinating bitch for a considerable time. Only a few drops of urine were voided as a result of this effort.

A diagnosis of obstruction of the bladder, probably due to urethral calculi, was made and the dog removed to hospital for exploratory catheterisation and possible urethrotomy. A gum elastic catheter was passed quite successfully but only a few drops of urine were obtained. In view of this and the continued presence of the fluctuating swelling, a radiograph was taken. It revealed an opaque spherical body situated in the position occupied by a distended bladder. Exploratory laparotomy was decided upon but anaesthetisation was only partially completed when the dog collapsed and died with symptoms of acute shock.

Post-mortem Examination.—This showed a large recent blood clot about the size of a Jaffa orange attached to the dorsal extremity of the spleen, the latter having ruptured for about 1½ inches on its medial surface. There was a considerable amount of blood in the abdominal cavity, probably the result of fresh haemorrhage due to palpation of the clot. This haemorrhage was apparently responsible for the animal's sudden collapse during anaesthetisation.

Remarks.—Enquiry from the owner brought to light the information that the dog had been knocked down by a car 12 months before, but had immediately run home after the accident apparently none the worse. Since that time especially careful watch had been maintained and the owner was emphatic that no further trauma had occurred. It is interesting to speculate as to whether the rupture was a delayed effect of a weakening of the splenic structure due to the injury sustained 12 months previously or whether it was spontaneous. It is also remarkable that the haemorrhage had been controlled and it is possible that complete recovery might have occurred had the clot not been manipulated. The clinical picture presented accords closely with the *post-mortem* findings.

SUMMARY

A case of delayed or spontaneous rupture of the spleen in an Aberdeen terrier dog is recorded.

* * * * *

LARGE HAEMANGIOMA OF THE SPLEEN IN A DOG

G. T. WILKINSON
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Subject.—An eight-year-old wire-haired fox terrier bitch.

History.—This animal had been in good general health until two weeks before professional advice was sought, but during the preceding fortnight had suffered from an indefinite malaise with inappetence, listlessness and occasional vomition. The bitch had been in season five weeks previously.

Examination.—This showed a dull listless animal with a considerably distended abdomen and very anaemic mucous membranes. The body temperature was normal, the pulse rather soft and sluggish although the heart action apparently was unimpaired. Palpation of the abdomen did not give rise to any signs of pain and a large globular, rather tense swelling could be distinguished almost completely filling the abdominal cavity. A definite diagnosis was postponed until an exploratory laparotomy had been performed.

The animal was anaesthetised with pentothal intravenously and anaesthesia maintained with ether and oxygen. When the anaesthetised bitch was placed on her back the spleen could be palpated lying transversely across the abdominal floor, apparently pressed into this position by the swelling.

Operation.—An extensive mid-line incision was made and the swelling was immediately exposed as a purple coloured, firm round body lying between the stomach and the spleen and incorporating the latter in its mass. Some difficulty was experienced in withdrawing the mass from the abdomen on account of its size ; once this was accomplished, however, extirpation was a fairly simple matter, being just a question of ligating all the vascular connections.

The animal was given 1 c.c. of Rephrin (Bayer's) intramuscularly and wrapped in blankets. Recovery from the anaesthetic was rapid although there was quite a prolonged period of deep breathing during the ensuing four hours. Two c.c. of Cytamen " 100 " (Glaxo) were given intramuscularly on the following morning and an iron-containing tonic was prescribed. Recovery was uneventful.

As can be seen from the accompanying illustration, the mass appears to have developed from the medial surface of the spleen, mainly from the dorsal extremity of the organ.

It measured approximately 6 inches in diameter and weighed a little over 5 lb.

Pathological examination revealed that the neoplasm was an haemangioma of the spleen. This would appear to be rather rare in the dog.

SUMMARY

Successful surgical removal of a large haemangioma of the spleen from a wire-haired fox terrier bitch is recorded.

ABSTRACTS

Utilisation of Food by Dairy Cows: Action of the Reticulo-omasal Orifice*

In order to investigate the forces associated with the steady flow of digesta through the reticulo-omasal orifice, the authors studied the pressure changes in the reticulum, omasum, abomasum and the reticulo-omasal orifice. Two Shorthorn cows with rumen fistulae were used and the continuous, synchronous records were made by means of lightly inflated balloons operating tambours.

Pressure within the reticulum was 2·5 to 3·5 cm. Hg above atmospheric pressure and the usual double contraction, occurring at a rate of 60 per hour, produced an increase of pressure of 1 to 2 cm. Hg. The omasum also showed a typical pressure variation during the reticulo-rumenal cycle, seen as a slow rise and fall, the fall being between the reticular contractions. In the slow omasal pressure cycle, at the time of maximal pressure which occurs at about the onset of the reticular contractions, there was a sudden short but marked fall in pressure coinciding with the second reticular contraction.

During most of the time (60 to 70 per cent.) of the reticulo-rumenal cycle, the reticulo-omasal orifice was flaccid, but with the first reticular contraction the pressure was raised due to a powerful closure of the orifice ; it fell again, however, at the second reticular contraction before showing another powerful contraction. The main contraction of the reticulo-omasal orifice coincided with the contraction of the anterior pillar of the rumen.

The abomasal pressure was usually lower than that of the reticulum. The greatest differential pressure, about 1 cm. Hg, occurred during contraction of the reticulum, when a flow of digesta might be expected.

During eating no effect on the pressure relationships between the compartments was noted, although the rate of the cycle was increased to 105 per hour. The extra reticular contraction associated with rumination caused an extra elevation in the pressure record from the reticulo-omasal orifice. When the animal was lying down, being milked or drinking, no significant change occurred in the recorded pressure patterns.

Transfer of digesta from the reticulum to the abomasum occurred mainly at the second reticular contraction but the flow was not absolutely continuous, for the pressure changes in the reticulo-omasal orifice showed an interruption which was due either to a valve-like contraction or, at least, to an increase in the resistance to flow.

The records showed that omasal contraction preceded contraction of the reticular musculature so that in the cycle of movements seen in the ruminant stomach the omasum may be the pacemaker for the reticulum which then " triggers " the ruminal contractions.

F. R. B.

* **Factors Affecting the Utilisation of Food by Dairy Cows. 4. The Action of the Reticulo-Omasal Orifice.** BALCH, C. C., *et. al.* (1951). *Brit. J. Nutrit.* **5**. 207-216.

Torsion of the Bovine Abomasum*

Torsio abomasi chiefly affects cows and is met most frequently in April and May.

The abomasum undergoes rotation on its transverse axis through 180°, chiefly to the left side. In most cases the omasum and reticulum are involved.

Having investigated 25 to 30 cases, the author considers the condition to be secondary in origin, whereas Emsbo (52 cases) believes it to be primary.

In three cases at laparotomy, the abomasum was found extremely dilated and filled with haemorrhagic, fermenting contents.

In one case there was pyloric stenosis caused by a leukotic tumour, while the cause of dilatation in the remainder was thought to be a paralysis of the neuromuscular motor apparatus of the abomasum.

The condition commences with atony of the abomasum, the latter tending to rotate to the left because its pyloric end is not symmetrically suspended in the omentum.

Initially, there is abdominal pain, decreased appetite and milk yield. The temperature is normal or subnormal and the pulse rate 100 to 120 per minute. Dilatation of the abomasum follows in two to three days and is considered pathognomonic. At this stage there is anorexia and increasing weakness. Death usually follows and is most rapid once torsion occurs.

Treatment must be instituted early and consists of laparotomy, evacuation of the abomasum, and reduction of the torsion when present.

L. C. V.

*Torsio Abomasi bovis, with special reference to Aetiology and Pathogenesis. Bischoff, P. (1953). Proc. Part I. Int. Vet. Congr., Stockholm.

ORGANO-PHOSPHORUS INSECTICIDES

The toxicity of the organo-phosphorus insecticides to mammals and insects provided the subject of the morning session of a joint symposium held by the Society of Chemical Industry, the Society of Public Analysts, the Pharmacological Society and the Association of Applied Biologists, at Imperial College, on October 2nd. Dr. Barnes (Medical Research Council) explained that the organo-phosphorus insecticides caused death in mammals by inducing a bronchospasm, which resulted in asphyxia. This bronchospasm was itself due to the interference in nerve transmission, as a result of the inhibition of the action of the enzyme cholinesterase by the organo-phosphorus insecticides. In addition, these compounds induced a stimulation of the parasympathetic nerve endings, causing a reaction similar to that observed with physostigmine. Atropine and artificial respiration provided the basis of antidotal treatment.

Drs. Potter and Lord (Rothamsted) presented a paper dealing with the insecticidal action of the organo-phosphorus compounds. Their experimental work indicated that the lethal effect was associated with an interference of nerve transmission as a result of inhibition of enzyme action. There was some discussion as to the significance of cholinesterase in insect nerve transmission, as this enzyme does not appear to be present in all insects.

Dr. Wigglesworth (Cambridge) took the chair during the morning session.

The afternoon of this joint symposium was devoted to chemical and biochemical aspects of the organo-phosphorus compounds, and a review of methods for the bio-assay of these insecticides.

D. W. J.

* * * * *

FARMERS' COMPANY TO SEEK CHARTER

At last week's Court of Aldermen of the City of London it was agreed to grant the application of the Farmers' Company to apply to the Queen for a charter of incorporation. The Farmers' Company is the youngest of the guilds, having been granted a livery by the Court of Aldermen in October, 1952. The Court also approved proposed amended ordinances. In the event of the charter being granted by the Crown, it is to be enrolled among the records at Guildhall, together with the proposed ordinances.

REPORT

Proceedings of a Conference called to consider the Report of the Nigerian Livestock Mission

This conference was called by the Nigerian Government and sat in Lagos from September 9th to 12th, 1952.

The Conference was composed entirely of European and African members of the Nigerian Government and its technical departments. Mr. R. J. Simmons, C.B.E., Adviser in Animal Health to the Secretary of State for the Colonies, attended as an observer.

The fact that the Conference was held indicates the importance which the Nigerian Government now attaches to the development of the livestock industry of the country, and the composition of the Conference is an assurance that the opinions expressed are the result of practical experience of local conditions and interests and are not those of people present in the country on a rushed and sponsored visit.

The Livestock Mission, when first it landed in Nigeria, was under the Chairmanship of Sir Frank Ware, F.R.C.V.S., and it is to be deplored that owing to illness contracted in Nigeria he had early to return to England. His place on the Mission was not filled, and it is significant also that his minority report was never published.

An improved fully developed livestock industry is a matter of supreme importance to the economic and social life of Nigeria. It took the Conference four days to discuss all aspects of the subject, and even then some matters were dealt with only shortly, so that in this review it will be possible to discuss only the more salient points. Chief among these is departmental responsibility. The Livestock Mission considered that the framing of livestock policy and the initiation of improvement measures should be the responsibility of one department only and held that the Department of Agriculture was the one indicated. The Mission also believed that the Veterinary Department should not concern itself with animal husbandry but should restrict its operations to the field of veterinary surgery and the maintenance of animal health. The Conference, in considering this matter, resolved that it shall be the responsibility of the Veterinary Department to implement policy for the prevention, control and cure of animal diseases. It resolved also that it shall be the responsibility of the Inspector-General of Animal Health Services—the new title given to the head of the veterinary services in Nigeria—to advise the Government of Nigeria on the movement of livestock within the country, the control of livestock offered for slaughter, the control of the slaughter and inspection of animals intended for human consumption, the control of the production of abattoir by-products including hides and skins, and the control of the application of artificial insemination of livestock. The Conference resolved, further, that it shall be the responsibility of the Inspector-General of Agriculture to advise the Government of Nigeria on all other aspects of the livestock industry.

This restricted view of the functions of the Veterinary Department does not differ radically from the opinions held by the Livestock Mission and is at once a reflection on the training, knowledge and experience of the Colonial Veterinary Service and on its ability to perform duties other than those associated with disease control and the slaughtering of animals for food. The basically important aspects of animal breeding, nutrition and management are no longer to be its concern nor are the equally important aspects of full development and economic exploitation of animal products.

The daily and intimate contact of veterinary officers with the pastoral tribes of the country; the intimate, indeed inseparable, association of disease control with breeding and nutrition, remain unrecognised, as well as the expert knowledge of animal products and their uses possessed by the officers of the department.

The Livestock Mission held the view—apparently shared by Government and Colonial Office officials—that the Agricultural Department already possesses special practical and scientific qualifications in the field of animal breeding and management.

This question of departmental responsibility for livestock development is a matter of supreme importance to the future interests of the Colonial Veterinary Service and of cardinal importance also to the livestock industry. A definite policy of development pursued with force, energy and imagination as the responsibility of one Government Department is urgently needed in Nigeria, if the vast potential resources of its livestock industry are to be fully developed and made available to local communities and overseas markets.

The proposal of the Conference with regard to departmental control creates a situation little different from the one which has existed for so long in Nigeria and with such restrictive results. Dual control, like the control by committees or councils, is no control at all, and leads only to inertia and irresponsibility. In this regard it may be relevant to record here that it was through the initiative, direction and management of the Veterinary Department that the war-time industries in fresh milk, butter, cheese, clarified butter-fat, and pork and bacon were established and rose to a record of production which fulfilled the needs of the civil and military populations. Moreover, through the activities of the Veterinary Department improved meat supplies became available, stall feeding of cattle was encouraged among peasant farmers and the movement of fat animals by motor transport by road and of chilled meat by rail to the south was initiated and directed. Blood and bone meal were manufactured and fed to cattle and pigs with satisfactory results; and the hide and skin export trade, by means of propaganda, practical instruction and control carried out over the past years, has been increased enormously in reputation and value in overseas markets.

By a process of selection and the castration of inferior bulls a beginning was made in the improvement of native herds for beef production and in a similar way, an upgrading of native breeds of goats, for their skins, took place. Even sheep breeding for wool was initiated by the Veterinary Department, and in co-operation with the Arts and Crafts Division of the Department of Education, a native weaving industry was commenced.

Furthermore, it was to a veterinarian (the late Colonel Robert J. Stordy, C.B.E., D.S.O.) that the Government of the Republic of Peru, South America, turned to for advice on the possibilities of an improved sheep breeding and wool industry in the great Andean Sierra. The prosperous and wealthy state of that industry to-day is a living testimony to the wisdom of that choice. In India, also, under the expert guidance of Sir Frank Ware, F.R.C.V.S., another veterinarian of high repute, the livestock industry has been greatly improved and some native breeds of cattle have been brought to a high state of productivity.

In the past it may have been true to say that the veterinary graduate was inadequately fitted to assume full responsibility for the development of the livestock industry, but that criticism no longer holds good and the comprehensive training afforded by the present-day curriculum gives the veterinary graduate a sounder and broader basis of knowledge on which to build practical experience and formulate policies of livestock development than does the training of his agricultural confrère. For the maintenance of animal health the first essential is sound constitution, the second is a proper nutritional standard and the third the prevention and cure of disease. To leave the care of the first two in the hands of one department and the third in the hands of another is only to perpetuate an organisation which, in Nigeria, has led to inefficiency and stalemate.

W. W. H.

REVIEW

[Histoire de la Médicine Vétérinaire. By André Senet. (1953). (*Que sais je?* series.) Presses Universitaires de France, 108, Boulevard Saint-Germain, Paris. No price stated.]

Histories of human medicine stock entire libraries, but although domestic animals are inseparable from the story of human progress and the horse as the knight's companion occupied for centuries a position superior to the other farm animals, works on the history of the veterinary art would barely fill one shelf. The appearance of the present little volume by M. André Senet, Docteur vétérinaire, is therefore most welcome. One of a series of "Teach Yourself" handbooks, it is of convenient size, and presents in 11 chapters a concise and accurate review of the evolution of veterinary science from prehistoric times to the present day.

When Neolithic Man entered this country, he brought with him sheep and pigs, and M. Senet suggests that stone implements similar to those used for trepanning human beings may have been used for veterinary surgery. He is at least satisfied that the age of polished stone lasted long enough to have seen the appearance of a crude veterinary medicine. This is warranted by the fact that no less an authority than Sir Cyril Fox includes among the biotic factors responsible for the distribution of early man epizootic disease, notably the liver fluke which forced him to shun low wet ground. A Pictish symbol stone carved with a rough symbol of the parasite has been found, set up no doubt to propitiate the evil spirits of the marsh lands which rotted the livers of his flocks and herds. At the same time, it shows that in veterinary no less than in human medicine the first physician was a priest, and that medicine and magic were synonymous terms. The snakes twined round a staff, badge of the Royal Army Medical Corps, represent the sacred serpents of the temples dedicated to Hygeia, Goddess of Healing, where Hippocrates practised. Hammurabai, King of Babylon, established *c.* 1700 B.C. a code regulating veterinary practice, while in Greece not only the diseases of the horse but those of cattle, sheep, pigs and poultry received serious attention. The Romans, it is known, drew upon Greek treatises and contributed little that was new. Surgeons were attached to the Legions, but the Romans never grasped the correct use of cavalry, and their failure to do so lost them their Empire. Auxiliary horse was recruited and broken up into patrols along the frontiers. In Hexham Abbey may be seen the tombstone of Flavinus, a standard bearer of the Ala Petriana, a cavalry unit stationed on the Roman Wall. The nearest wall fort to Hexham is at Cilurnum, near Chollerford, where some ruined buildings have been claimed as a veterinary hospital, possibly under farrier sergeant majors appointed by officers of the regular army, who would consider non-commissioned rank suitable for the care of sick and wounded horses. M. Senet states,

however, that a certain Aspyrte de Klazomène, born *c.* A.D. 300, was veterinary-in-chief of the armies of Constantine the First. This is interesting because in the reign of Constantine cavalry for the first time composed the major Roman army. The high rank of Klazomène, equal perhaps to that of a Tribune, shows the importance veterinary medicine attained later when emphasis shifted from the traditional foot soldier with his pike to the "arme blanche"—although the changeover came too late to save the Empire; at Adrianople in A.D. 378 the Roman arms were overridden and utterly destroyed by Gothic horsemen, who had perfected a new stirrup. Klazomène himself retired into civil practice after several campaigns under the Emperor, and M. Senet observes that his diagnosis was so accurate and his writings were so important that it is difficult to refuse him the title of father of modern veterinary medicine.

After a period of stagnation in the Middle Ages, when in M. Senet's words, illness was regarded as a Divine visitation, and treated with prayers and holy water, veterinary medicine passed into the hands of the Masters of Horse employed by royalty and the nobility. One of the earliest and most famous was Jacques de Solleysel (1617–1680); one of the latest, perhaps the last—although M. Senet does not mention him—was Mr. White, M.R.C.V.S., Master of Horse in Laurence Olivier's screen-play of "Henry V." The precepts of Jacques de Solleysel possibly bore fruit in Cromwell's superb Ironside dragoons, who decisively carried the day at Marston Moor and Naseby.

Rational veterinary medicine opens with the appearance of Claude Bourgelat, whose name M. Senet places at the head of the 10th chapter as the founder of organised centres of training. He concludes by summarising the evolution of veterinary science under five headings. The fourth section merges almost insensibly into the fifth, that of modern progressive medicine, and he dates it from the foundation of the Lyons Veterinary School in 1762, followed by that of Alfort in 1766. Charles Vial de St. Bel, familiar as first Principal of our earliest British school, was a former professor at Alfort. Some final remarks on the future of veterinary medicine merit attention, and there is a short but useful bibliography. The book is illustrated by four full-page line reproductions of old plates and one table, and it is a pity it is not better bound: the present wrapping, following the French practice, is paper. Although it is only short, the book is well written and covers the ground adequately. M. Senet is to be congratulated upon a scholarly little work which makes a valuable contribution to an unjustly neglected field of veterinary science.

At the Royal Society of Medicine in Wimpole Street, W., last week, Mr. A. T. Glenny, F.R.S., was presented with the Jenner Medal for his outstanding contribution to the prevention and control of epidemic disease, notably diphtheria. Mr. Glenny worked for many years in the Wellcome Research Laboratories. The Jenner Medal was instituted in 1896. Last week's presentation was made by Sir Francis Walshe, President of the Royal Society of Medicine.

* * * * *

A horse which might replace Pompey, the famous drum horse of the Royal Horse Guards, which died in July, has been found in Huntingdonshire. The new horse is Boxer, a six-year-old gelding of 17 hands, belonging to Mr. F. Gifford, a farmer of Great Stukeley. Belgium, Holland and Ireland have been searched for a traditional skewbald or piebald horse. Major J. K. Doxford, Regimental Adjutant of "The Blues," said that Boxer was "a probable buy." He did not know whether the choice would meet the approval of the Royal Army Veterinary Corps, who would make the final decision.—*Daily Telegraph*.

Award of the Thomas Baxter Prize to Mr. Sidney Foster

JOINT ARCHITECTS OF THE MILK MARKETING BOARD

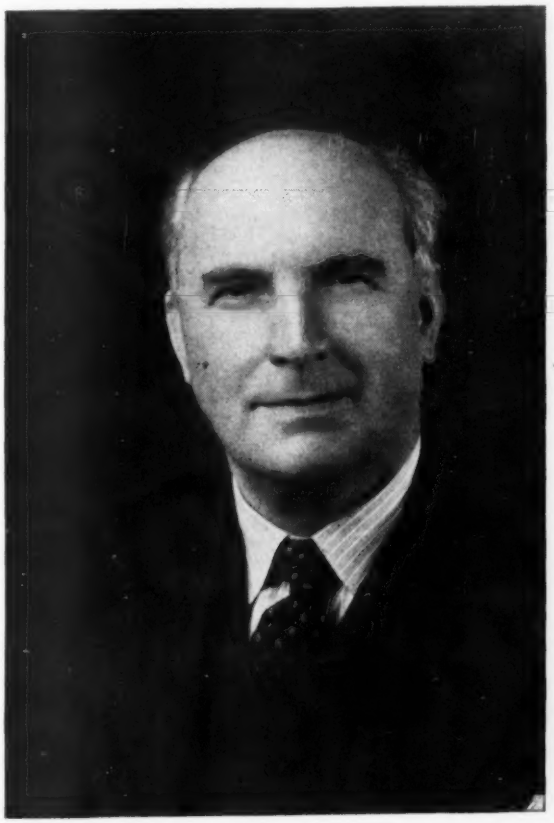
As our readers will be aware, the Thomas Baxter Memorial Prize was instituted in 1949 to commemorate the services to milk producers of Sir Thomas Baxter. The first winner of the trophy, which carries with it a gold medal and £100, was Dr. John Hammond. In 1951 two awards were made—to Sir Thomas Dalling and Mr. James Mackintosh—and last year's winners were Mr. and Mrs. Gerald Strutt, for creative work in cattle breeding. The field this year was administration and the many members of our profession who know him and appreciate the work of the two men, Thomas Baxter and Sidney Foster, who may be described as the joint architects of that great organisation the Milk Marketing Board, will be delighted at the decision thus to honour Mr. Foster, who was General Manager of the Board from its formation in 1933 until 1948 and General Adviser for a further four years. His genius for business organisation is reflected in the facts that the sale of milk off farms rose from 856,000,000 gallons in 1933 to 1,530,000,000 by 1952, and the value of that milk (sold through the Board) from £42,200,000 to £221,000,000.

We have much pleasure in printing the following biographical tribute to Mr. Sidney Foster and his work, which we have received from Mr. Thomas Peacock, the Chairman of the Milk Marketing Board:—

MR. SIDNEY FOSTER

General Manager of the Milk Marketing Board, 1933-48

Born 1885, the son of the late Mr. and Mrs. Alfred Foster, formerly of Park Road, Sittingbourne, Kent, Mr. Foster, as a boy, attended Holy Trinity Schools. At the age of 13 he entered the general office of the Sittingbourne Co-operative Society and for 11 years he gained experience in book-keeping and other clerical duties in all the trading departments of the Society.



In 1911 he became Senior Clerk to the Edmonton Co-operative Society and later Private Secretary to the Manager and Secretary; 1915 saw him as the Chief Clerk and Accountant, with complete control of all the clerical and accountancy functions. During these years he had qualified by examination as shorthand-typist, accountant, statistician, secretary, as well as in company and co-operative law. As General Secretary to the Edmonton Society in 1918 he undertook the task of developing the business by trading methods and propaganda.

In 1920 Mr. Foster had become Financial Secretary to the London Co-operative Society, formed by amalgamation of the Stratford and Edmonton Societies, and in 1924 he was appointed General Manager to this Society. As such he was responsible for executing trading policies embracing every form of retail distribution and many kinds of factory production; farming, planning, executing and developing the business on progressive lines. During the nine years he held this position spectacular results were achieved. Membership rose from 114,000 to 491,000 and capital increased from £1,000,000 to £6,500,000; sales rose from £2,750,000 to £10,000,000, and net profits per annum were increased from £69,000 to £616,000. During that period also, 500 new shops, stores and factories were opened, increasing the number of the Society's trading points from 288 to 800.

The few preceding paragraphs give an idea of the background of the man who, in 1933, took up his appointment as General Manager of the Milk Marketing Board. He had, of course, been a member of the old Permanent Joint Milk Committee and as such his extensive knowledge and experience in the milk industry were well known and fully recognised in farming circles. It was, therefore, not surprising that he should have been invited to accept this position. He did this because of his conviction that only through co-operation in its widest sense could agriculture, and particularly dairy farming, be saved from chaos.

Mr. Foster entered Thames House only 20 days before the Milk Marketing Scheme was due to commence on October 6th, 1933. At that time not a single person had been engaged to do any part of the work and even the Secretary and other officials had not been decided upon. In those 20 days staff had to be got together, the offices planned, equipment obtained and systems designed to get the scheme going. Only a man of the experience and with the genius for organisation possessed by Mr. Foster could have accomplished this vast undertaking, but undertake it he did, and the results of his gifts and capacity for business organisation have been seen in the long record of successful progress made by the Board ever since.

Some gauge of the enormity of the task can be had from the fact that within a very short space of time not only had the whole policy and structure of prices to be set up but the machine to effect the handling of the financial side of this great industry on the basis of a monthly payment to more than 100,000 producers had to be set in motion at once. In those early days negotiations with manufacturers and distributors were almost continuous and, with increasing milk production, the need for urgent attention to the market was a pressing problem.

It was in this atmosphere of intense activity and political as well as financial apprehension that Mr. Foster commenced what might be described as his second career. From then onwards the story of Sidney Foster and the history of the Milk Marketing Board become one and for 15 years we have a picture of him advising and guiding the Board on the one hand, whilst on the other administering the whole complicated machinery of operation and planning each stage of development.

From those early days the Board, which started operations without a penny of capital, has developed into a great national organisation with a turnover of over £220,000,000, reserves of nearly £3,000,000, and employing a staff of over 4,000. During that time order has been brought out of chaos, prices have been stabilised, and regular monthly payments made to farmers; new markets have been found and developed; rewards for better quality milk were introduced at an early stage and the Board embarked upon a policy of building its own creameries in order to facilitate better marketing, as well as to gain first-hand experience in the manufacturing market. Responsibility for the collection of milk from farms has become a part of the Board's routine work, resulting in material benefit to milk producers. Later still, with its service of national milk records, artificial insemination and grass drying, the Board has been able to give an unremitting service to its producers, the dairy industry, and to the public, and through it all the guiding hand of Sidney Foster is to be seen.

Many tributes have been paid to Mr. Foster for the fine work he has carried out on behalf of agriculture and particularly for dairy farmers. These have come not only from his immediate colleagues on the Board but from amongst the vast numbers of farmers whom he has served so well and, in fact, from many who have had business dealings with him during his working years. From these stand out the recognition of his ability to make friends with those around him, his unerring knack of the selection of good men to help in the work of the organisation and his simple charm and interest in all matters affecting the staff. These facts, when combined with the wealth of business experience which he brought to the Board, have all contributed to his success in building for English dairy farmers an organisation which is the subject of admiration not only at home but in many countries throughout the world.

Although now retired from active work with the Milk Marketing Board his heart is still with it. Mr. Foster still resides at Cobham, Surrey, and I know there is nothing he enjoys more than coming to Thames Ditton occasionally and keeping in touch with his old colleagues.

THOMAS PEACOCK.

NOTES AND NEWS

Diary of Events

Oct. 28th.—Meeting of the Midland Counties Division, B.V.A., at Birmingham (Medical Institute), 2 p.m.

Oct. 29th.—Autumn Meeting of the North of Scotland Division, B.V.A., at Inverness (Station Hotel), 2.30 p.m.

Oct. 29th.—Annual General Meeting of the West of Scotland Division, B.V.A., at Glasgow (Central Hotel), 2.30 p.m.

Oct. 30th.—Joint Meeting of the Lincolnshire and East Midlands Division, B.V.A., at Grantham (The George Hotel), 2.15 p.m.

Oct. 31st.—Meeting of the Society of Women Veterinary Surgeons, in the Veterinary Hospital, Pembroke Gardens, Liverpool, 2.30 p.m.

Nov. 6th.—Meeting of the Yorkshire Division, B.V.A., in the Department of Agriculture, The University, Leeds, at 2.30 p.m.

Nov. 7th.—Meeting of the Scottish Metropolitan Division, B.V.A., in the Royal (Dick) School of Veterinary Studies, Edinburgh, 2.30 p.m.

Dec. 4th.—Annual Dinner and Dance of the North Wales Division, B.V.A., at Llandudno (St. George's Hotel).

R.C.V.S. Membership Examinations

Nov. 6th.—Pharmacology, etc. (Revised Syllabus), Written Examination.

Nov. 9th.—Pharmacology, etc. (Revised Syllabus), Oral and Practicals (London and Dublin).

Nov. 9th.—Animal Management Examination commences at Edinburgh.

Nov. 11th.—Meeting of the Association of Veterinary Teachers and Research Workers (Scottish Regional Group), in the Royal (Dick) School of Veterinary Studies, Edinburgh, 2 p.m.

Dec. 10th.—M.R.C.V.S. Written Examinations.

Dec. 11th.—M.R.C.V.S. Written Examinations.

Dec. 14th.—M.R.C.V.S. Oral and Practicals commence (Panels "A" and "B").

B.V.A. Council and Committee Meetings

The following are the arrangements for the next meetings, which will be held in London on Wednesday, Thursday and Friday, November 11th, 12th and 13th, 1953:—

Wednesday, November 11th

11.30 a.m. Parliamentary and Public Relations Committee.

2.0 p.m. Veterinary State Medicine Committee.

Thursday, November 12th
10.0 a.m. Organising Committee.
12.0 noon. Home Appointments Committee.
2.0 p.m. Finance Sub-committee.
2.30 p.m. General Purposes and Finance Committee.
Friday, November 13th
11.0 a.m. Council Meeting.

* * * * *

R.C.V.S. Annual Fees

In reference to letters on the above subject which have appeared in recent issues of *The Veterinary Record*, complaining that the Royal College has failed to give due notice or explanation to members of the profession of its decision to increase the annual fees, we are asked to point out the following facts:—

The Annual Report of the Royal College is sent each year to every member of the College.

In the report for the year ending March 31st, 1951, appears the following on page 10:—

> "It has always been the intention of the Council that the College should be financially independent of any Government or other grant. The principal income of the College has hitherto been derived from two sources. The first is the annual fee of members of the profession which, under the Veterinary Surgeons Act, 1920, was limited to one guinea per annum; and secondly, from the balance of income over expenditure on the M.R.C.V.S. diploma examinations. During the past year the Council has given serious consideration to the finances of the College and to the desire to remain financially independent. It is clear that any income from the M.R.C.V.S. diploma examinations will shortly cease. It will, therefore, be necessary to increase the annual fee, power for which has been given under the Veterinary Surgeons Act, 1948, and preliminary consultations with the Privy Council have taken place to this effect."

Further, in the report for this year ending March 31st, 1953, the text of the proposed Order in Council was published in full with further explanation as to the reason for the change.

On the publication of the Order in Council, after being laid before Parliament, the Registrar supplied information on which was based the article which was published in *The Veterinary Record* on August 15th, 1953 (page 528). This article gave the substance of the Order and the reasons for the increase. It was pointed out that:—

> "It is now not generally appreciated that from its foundation in 1844 until 1920, the College's only sources of income were the voluntary contributions of members and any excess of income from examination fees over expenditure in the Diploma examinations. In 1920 Parliament allowed the College to charge an annual fee of one guinea to each of its members within the United Kingdom, which fee, despite the great depreciation in the value of money, has remained unchanged until the present time."

Furthermore, it must be presumed that by now the salient points of the Veterinary Surgeons Act 1948 are known. It is clearly stated in that Act that no name can be removed from any register of the College unless "a written demand" has been made to any person who has not paid his annual fee by the due date and it will be remembered that at least one written request will have already been sent prior to the "due date." Further, the Act lays down that this additional "written demand" must contain a time of grace within which payment can be made.

Even if payment be not made after all this, removal from the register is not automatic but only by solemn process of Council. There are additional safeguards in the form of registered letters, etc., which will be sent out in the name of the Council to prevent any mistake.

The Act again provides over and above all this (and it is set out in the Order in Council laid before Parliament) that even if a name is removed for non-payment it can be restored on payment within six months of the due fee with an additional sum of £1 1s. for trouble caused.

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LOCAL VETERINARY INSPECTORS' ACCOUNTS FOR FEES AND EXPENSES

Arrangements for Payment

On November 1st, 1953, the Ministry is introducing new arrangements for the payment of Local Veterinary Inspectors' accounts for fees and expenses. These arrangements, which have been agreed with the British Veterinary Association, provide for:—

(i) Payment to be made monthly instead of quarterly.

(ii) In England and Wales the monthly payments to be made by the Ministry's County Finance Officers. Accounts of Local Veterinary Inspectors in Scotland will continue to be paid by the Ministry's Accounts Division in London, as the Ministry has no County Finance Officers in Scotland.

(iii) The Local Veterinary Inspector, in addition to submitting daily accounts for fees and expenses to the Divisional Veterinary Officer as at present, to send a monthly claim to the Ministry, *i.e.*, to the County Finance Officer or Accounts Division in London as the case may be.

(iv) The Ministry to send the Local Veterinary Inspector an explanation where the net amount found to be due differs from the amount shown in the monthly claim.

From November 1st, 1953, only two forms of account will be used by Local Veterinary Inspectors in respect of duties to which the new arrangements apply. Supplies of the new account forms and the monthly claim forms are being distributed to Local Veterinary Inspectors by the Ministry's Divisional Veterinary Officers. Local Veterinary Inspectors in England and Wales are being notified individually of the address of the County Finance Officer to whom their monthly claims should be sent.

The monthly claim for the month of November should be posted to reach the Ministry's County Finance Officer (or Accounts Division in London) not later than December 10th. Claims for subsequent months should be posted to reach the Ministry not later than the 10th of each month.

The Ministry emphasises that the smooth working of the new arrangements will depend upon the co-operation of Local Veterinary Inspectors in preparing accounts and claims in accordance with the new instructions which have been sent to them. The opportunity has been taken to provide each Local Veterinary Inspector with an up-to-date copy of the memorandum of the conditions on which Local Veterinary Inspectors are appointed for the purposes of the Diseases of Animals Act, 1950, Form No. 984/SE (Revised).

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Export and Import of Cattle Semen

The following joint announcement is made by the Ministry of Agriculture and Fisheries and the Department of Agriculture for Scotland:—

The Minister of Agriculture and Fisheries and the Secretary of State for Scotland have considered the comments of the organisations concerned on the report of the Oaksey Committee on the export and import of cattle semen.*

There is general agreement with the recommendation of the Committee that the import of semen should only be permitted for exceptional purposes and with due regard to the risk of introducing animal diseases.

On the export of semen certain organisations, including the Livestock Export Group, the Royal Highland and Agricultural Society of Scotland and several breed societies have expressed opposition to the recommendation that commercial export of semen should be permitted under licence subject to certain restrictions. Other organisations, including the National Farmers' Unions, the Milk Marketing Boards and other breed societies have expressed their agreement with this recommendation.

After considering these views, the Minister and the Secretary of State for Scotland have decided to accept, in principle, the recommendations of the Oaksey Committee on both the import and export of semen.

Before issuing a licence for the export of semen, the appropriate breed society will be consulted as recommended by the Committee. It is intended to accept in a slightly modified form the recommendations of the Committee regarding the controls to be exercised on semen for export, to make it practicable for semen to be exported under suitable safeguards by individual breeders.

Enquiries from those wishing to export semen should be made to the Ministry (4/10, Chester Terrace, N.W.1), or in Scotland to the Department of Agriculture for Scotland (Government Buildings, Broom House Drive, Saughton, Edinburgh, 11).

* *Vet. Rec.* **65.** 165.

PERSONAL

Births.—Gunstone.—On October 17th, 1953, to Angela, wife of J. W. Gunstone, B.Sc., M.R.C.V.S., a son—Peter Frank.

Hunnam.—On October 15th, 1953, at 22, Ferrers Road, Lewes, Sussex, to Sallie (*née* Thorne), wife of Robert Hunnam, B.V.Sc., M.R.C.V.S., a second son—Geoffrey Robert.

Oxley.—On October 12th, 1953, to Evelyn, wife of H. Oxley, M.R.C.V.S., Church Street, Cannock, Staffs, a son—Charles Henry.

. . . . .

Forthcoming Marriage.—Harbourne—Lawson.—The engagement is announced between John Fulton, only son of Mr. and Mrs. H. Harbourne, of Crumpsall, Manchester, and Ann, younger daughter of Mr. and Mrs. F. W. Lawson, of Driffield, Yorkshire.

. . . . .

Ministry of Agriculture Veterinary Field Staff Changes.—Mr. E. Beaumont, M.R.C.V.S., D.V.S.M., Veterinary Officer at Hertford, has been transferred to the Veterinary Laboratory, Weybridge, as a Research Officer.

Mr. J. G. Loxam, M.R.C.V.S., has been appointed to the permanent staff as Veterinary Officer and will be stationed at Lincoln.

. . . . .

Will.—Motton, Mr. Samuel John, of Penzance, veterinary surgeon, £55,498.

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MODERN VETERINARY PRACTICE AND TEACHING

Professor Mitchell's Inaugural Address

Professor W. M. Mitchell, Head of the Royal (Dick) School of Veterinary Studies at the University of Edinburgh, in his recently delivered inaugural address as the first occupant of the William Dick Chair of Veterinary Surgery, said that the variety of animals a veterinary surgeon met in the course of his work was much wider than in human medicine. As there were no hospitals for animals supported by the State, practitioners must be prepared to undertake a considerable amount not only of minor surgery but also major surgery.

In cities and towns practitioners who formerly worked chiefly among horses were slow to adapt themselves to small-animal practice, their premises were badly situated and ill-equipped for small-animal surgery, and such instruments as they had were more suitable for surgical work on horses and cattle. A new generation of younger men and women, alive to the needs of practice in towns, were gradually establishing themselves and taking pride in their premises, with suitable consulting rooms and operating rooms for small-animal work, including major surgery.

Professor Mitchell said that it was in the field of small-animal work that unqualified practice had grown to menacing proportions, as the result of the activity of certain organisations. The employees of those organisations were said to have had some training to treat animals, but they were not bound by any professional code of ethics. That state of affairs was now subject to definite legal control, for the Veterinary Surgeons Act, 1948, which made provision for veterinary education to come under the control of universities, had also made provision to safeguard veterinary surgeons against unqualified practice. "By restricting unqualified practice in this way," said Professor Mitchell, "a greater responsibility indirectly falls upon us, who are responsible for the training of future practitioners, to see that they are well prepared to uphold their rightful place in the medical and surgical treatment of animals."

Scotland's Lead in Bovine Tuberculosis Eradication

Referring to practice among farm animals, Professor Mitchell said that the war years, which had brought prosperity to agriculture, had also brought prosperity to the veterinary profession, through increased use of their services in controlling some of the major diseases affecting dairy cattle. In particular the great scourge of tuberculosis in cattle was being rapidly brought under control in many parts of the country. Scotland was in the forefront of this advance, the great dairying area of the south-west now being an eradication area, and it would probably not be long before tuberculosis was completely stamped out there. Once a herd was free of tuberculosis great care had to be taken not to reintroduce it, and many owners were loath to move their animals from their own farms.

Such factors must be kept in mind when considering concentrating clinical cases from scattered farms, with a view to building up a teaching hospital for training students. He thought that development of a consolidated ambulatory practice, working from one centre easily available to students, was not only a safer approach to clinical training from an informed owner's point of view but it provided a much wider and more stimulating training to the student.

There had always been a certain amount of practice at farms surrounding Edinburgh, and the Centre of Rural Economy was providing additional clinical material for teaching purposes. Three years ago the school took possession of land around the adjacent buildings of Bush Home Farm and Easter Bush Farm for development as a field station, which had been stocked with a representative group of farm animals. Existing buildings were gradually being put into a state of good repair, but no major building programme had been started so far.

The Dean of the Faculty of Medicine in the University of Edinburgh, Professor T. J. Mackie, presided, and welcomed Professor Mitchell to the new chair.

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ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Anthrax:

Dorset.—Higher Caggypole Farm, Buckhorn Weston, Gillingham (Oct. 13).

Salop.—Dorrington Hall Farm, Woore, Crewe (Oct. 15); Meadow Farm, Marton, Baschurch (Oct. 19).

Fowl Pest:

Essex.—Woodfield, Hydewood Lane, Rochford (Oct. 13).

London.—Rear of Bore and Fensem, 40, Archway Road, N.19 (Oct. 13).

Middx.—93, Muswell Hill Road, N.10 (Oct. 13); Oakbank, Courtenay Avenue, N.6 (Oct. 14).

Surrey.—Comforts Place Farm, Lingfield (Oct. 13).

Swine Fever:

Cornwall.—Whiterock, Wadebridge; Slade Park, Pensilva, Liskeard (Oct. 16).

Essex.—The Bungalow, Common Lane, Thundersley (Oct. 14); Stanway, Hydewood, Canewdon, Rochford (Oct. 15); Heath Farm, Birch, Colchester (Oct. 16).

Hants.—Old Tilbury, Passfield, Bordon (Oct. 15).

Herts.—Coombes Farm, Kelshall, Royston (Oct. 14).

Kent.—Chapel Hill Piggeries, Margate (Oct. 14).

Lancs.—Park Farm, Pendlebury, Swinton, Manchester (Oct. 16).

Lincs.—Mill Lane, Grimboldby, Louth (Oct. 17).

Midlothian.—St. Margarets, Edgefield, Loanhead (Oct. 15).

Monts.—Henfaes, Bettws-Cedewen, Newtown (Oct. 14); The Factory, Brithdir, Welshpool (Oct. 16).

Norfolk.—Elderton Lodge, Thorpe Market, Norwich (Oct. 14).

Notts.—411, High Street, Chilwell, Beeston (Oct. 14).

Salop.—Upper House Farm, Minsterley; Park Hall, Whittington, Oswestry (Oct. 15).

Surrey.—Farleigh Court Farm, Upper Warlingham; Hall Place Farm, Cranleigh (Oct. 14); Farleigh House Farm, Farleigh Common, Warlingham; Southern Wood, Rowtown, Addlestone, Weybridge (Oct. 17).

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PIG MANAGEMENT AND HOUSING

Beds A.E.C. "Farm Walk and Talk"

It is well known that there has been a marked increase in the pig population of this country since the war. Thus the agricultural returns for March, 1953, gave the number of pigs in England and Wales as just over 4,000,000. This is almost three times the figure for 1944 and represents the largest pig population that we have known. During the same period the individual pig has greatly increased in value, with the result that the pig is now one of the most important of our farm animals. This rise in status of the previously lowly pig has disclosed that we have much to learn not only about the diseases of this species but also about its housing and general management.

The management and housing of pigs were the subjects of a "farm walk and talk" which was held by the Bedfordshire Agricultural Executive Committee at Harlington, Beds, on October 15th. On the farm visited, a combination of the outdoor and indoor systems was used, the young piglets and breeding stock being kept at grass while buildings were provided for the farrowing sows and fattening pigs. The buildings were of conventional design and their chief interest lay in the fact that they had been converted, at reasonable cost, from existing farm buildings such as calf-pens and cart-sheds—a course that often has to be followed to-day.

One felt that this type of demonstration would encourage many pig-owners to develop better methods of management, and that in some cases it would be profitable for owners to meet their veterinary surgeons at such demonstrations to discuss and evaluate some of the points raised.

E. A. G.

BOVINE TUBERCULOSIS ATTESTATION

Satisfaction in the New Forest

Progress towards complete attestation of cattle in the New Forest was discussed at a meeting of the Verderers at Lyndhurst recently. Colonel J. B. Scott, the Official Verderer of the New Forest, described the present position as "extraordinarily satisfactory." A return last July had shown that of 3,172 head of cattle attested only 244 (7·6 per cent.) proved to be reactors.

Colonel Scott said that from September 1st New Forest commoners had not been allowed to take on to their holdings any cattle that had not come from attested herds, attested sales or sales of Forest animals held in the Forest and approved by the Verderers. From January 1st, 1954, they would have to get rid of every reactor without delay.

Call for "Greater Vigour" at Mansfield

A call for the campaign to eradicate bovine tuberculosis to be pressed with greater vigour is made by Mansfield's M.O.H., Dr. J. S. Drummond, in his annual report for 1952. He states that more than 38 per cent. of all cows slaughtered to the town for human food were found to be suffering from this disease, which he describes as a disquieting figure.

Dr. Drummond adds that only when it is removed will children be safe from non-pulmonary tuberculosis of bovine origin. The order making illegal the sale of raw milk in the town came into operation in November and would ensure that the milk supply was clean and safe. It was also a step forward in the fight against non-pulmonary tuberculosis.

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LEGAL NOTES

Chasing of Sheep Held to Justify Shooting of Dog

On Tuesday of last week the Court of Appeal (Lord Justice Somervell, Lord Justice Denning and Lord Justice Romer) allowed an appeal by the defendant from a decision of Judge L. C. Thomas at Tredegar County Court on July 14th last, awarding the plaintiff, Mr. Joseph Robert Thayer, of Marine Street, Cwm, £21 damages against a police-constable, Oliver Newman, employed by Monmouthshire County Council, for shooting a dog belonging to the plaintiff because it was chasing sheep.

A farmer complained to the police that he had been losing sheep owing to worrying by dogs; and on the morning of January 30th last the defendant saw two dogs which, he said, were chasing sheep in a field belonging to the farmer. He thereupon took a gun and shot one of the dogs.

The plaintiff brought the action to recover damages for trespass. The Judge found that the shooting was unjustified, on the ground that the dogs were playful and not ferocious and were not chasing the sheep with the intention of killing them, and that the dog in question was too small to be able to do much harm. He accordingly awarded the plaintiff damages.

Mr. Gilbert Dare (for the appellant) submitted that once the fact had been established that the dogs were chasing sheep it was immaterial whether they were playful or ferocious. The sheep were ewes about to give birth to lambs. The law applicable was laid down in Cresswell *v.* Sirl ([1948] 1 K.B. 241), and the defendant had acted reasonably and done only what he was legally entitled to do.

Mr. P. H. Morgan (for the plaintiff) submitted that the Judge below had not been impressed by the evidence of the defendant and his witnesses, and the plaintiff contended that at the time of the shooting there were no sheep there at all. The burden was on the defendant to justify the shooting and he had not done so. The Judge considered the shooting to be a wanton and malicious act and awarded exemplary damages.

Judgment

Lord Justice Denning, who delivered the first judgment, said that from the note of the judgment it was obvious that the County Court Judge was satisfied that this dog was chasing sheep but thought that it was only a playful attack. In fact, chasing of sheep by dogs, whether playful or malicious, was a serious menace against which farmers were entitled to protect themselves by shooting if in all the circumstances it was reasonable so to do. The onus was on the farmer to prove justification as laid down in Cresswell *v.* Sirl. The judgment below could not be supported.

Lord Justice Romer said that Judge Thomas seemed to think that the chasing of sheep was not sufficient to justify the use of a gun, but that an actual attack was necessary before such drastic action was justified. That was not so. In order to justify the shooting of a dog it was not necessary to show that at the time it was shot it was physically attacking a sheep. It was sufficient to show that it was chasing sheep in circumstances which were reasonably calculated to result in serious harm to the chased animal. The chasing of ewes in lamb was sufficient to justify what the policeman did.

Lord Justice Somervell agreed.

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MYXOMATOSIS IN EUROPE

In its latest circular (October 5th, 1953) the Office International des Epizooties states that the epizootic of myxomatosis which is prevalent in France has spread to Belgium. Further, it is now confirmed officially that the disease has penetrated into Holland and Germany, where measures of control have been taken.

Although the presence of myxomatosis has not yet been reported in Switzerland, measures of protection have been considered with the object of their being immediately applied in case of need.

In France various cases of myxomatosis among hares have been reported, first in the Isere Department and later in the Oise and Loiret Departments. Diagnosis of myxomatosis has been confirmed experimentally by the Veterinary Service of the Isere Department and the Central Laboratory for Research at Alfort.

Dr. G. Ramon writes: "Thus, confirmation is given that hares which up to now were considered as completely refractory to myxomatosis can be affected by it.

"At the International Congress for Microbiology (Rome, September 6th to 12th) this fact, which I reported in a communication on myxomatosis, was contested. Now there is no doubt about it. An article dealing with myxomatosis of hares will appear very soon in the Bulletin of this office.

"The fact that hares can be affected by myxomatosis when they have always been considered as refractory confirms what I have written on several occasions, namely, that the ultraviruses are subject to variations which nobody can possibly foresee. Already the occurrence of a number of variants of the foot-and-mouth disease virus during the recent epizootic of foot-and-mouth disease confirmed this great variability of the virus concerned. The same thing applies equally to the viruses of influenza, poliomyelitis, etc.

"It seems that the virus of myxomatosis has progressively adapted itself to the hare in the course of the epizootic which has been spreading in France for a year among wild rabbits; this may be due to favourable circumstances such as a lower state of resistance in some animals. However, there is no doubt for the time being that the disease does not possess a high killing power for hares. But it is to be feared that the ultravirus of myxomatosis may acquire an enhanced virulence by repeated passages through this animal. Besides, even if hares develop milder forms of the disease as compared with those of wild rabbits they can nevertheless act as virus carriers which are capable of carrying the disease on long distances, as they are much less sedentary than wild rabbits.

"I shall continue on behalf of the O.I.E. and as has been done up to now, to follow closely the development of the epizootic in wild and domestic rabbits as also now in hares, with the object of keeping the Veterinary Services informed. In that respect reference can be made to my communications at the International Veterinary Congress, Stockholm, and the International Congress for Microbiology, Rome, and to my article in the Bulletin of this office, No. 9-10, to be issued within a very short time. In this article I mention some attempts that Pasteur made in 1888 with the object of destroying wild rabbits by the use of the fowl cholera micro-organism."

Outbreak Among Rabbits in Kent

Appointment of Advisory Committee

On Monday last the Ministry of Agriculture and Fisheries announced that in the past week, myxomatosis was discovered on an estate near Edenbridge, in Kent. "The origin of the infection is not known. The disease seems to be limited at present to a small area of 100 to 200 acres and at this time of the year there is little likelihood that it will spread. Rabbit-proof fencing has been erected round the area known to be affected and all possible steps will then be taken to exterminate the rabbits within it."

The announcement proceeds: "Myxomatosis kills wild and domestic rabbits but is not known to affect other animals, except hares. Its existence has been known for over 50 years, but it is only in the past four years that the disease has spread over large areas in Australia and caused a substantial reduction in rabbit numbers.

"Within the past 12 months the infection has also spread widely in France from a single outbreak that occurred in June last year. Because of these developments abroad and especially in France, the Agricultural Departments have in recent months made a close study of the problems that would be raised if an outbreak of myxomatosis occurred amongst rabbits in Great Britain.

"In Great Britain the wild rabbit is a pest. The damage it does to food production far outweighs its commercial value. None the less, there is some doubt whether myxomatosis would, in the long run, prove wholly effective or desirable as a means of exterminating this pest. It is possible that some rabbits would in course of time become immune to the disease.

"To advise and assist them in reaching policy decisions the Minister of Agriculture and Fisheries and the Secretary of State for Scotland have now decided to set up a Myxomatosis Advisory Committee under the chairmanship of Lord Carrington, Joint Parliamentary Secretary to the Ministry of Agriculture and Fisheries. The membership of this Committee will be announced shortly.

"The conditions favourable to a rapid spread of the disease will not occur until the spring. The present outbreak, therefore, gives no immediate cause for concern. None the less it is necessary to be ready to protect domestic rabbits. Veterinary officers of the Ministry are in touch with the Pasteur Institute in Paris regarding a vaccine that could be used for the protective inoculation of domestic rabbits, with a view to the manufacture and storage, in this country, of supplies for use if myxomatosis should spread."

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Arrangements are being made, with the assent of the Public Health Committee, for a number of students at Bristol University Veterinary School to attend Weston-super-Mare public abattoirs in connection with their studies.

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Weekly Wisdom

The practice of selling "doubtful" animals to unsuspecting purchasers is the most insidious method of spreading disease throughout the country.—H. E. Bywater. Letter to *The Farmers' Weekly*.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

LACTATION YIELDS OF EWES IN CYPRUS

Sir,—I should like to draw attention to an inaccuracy appearing in your issue of October 17th, under the heading "Report, Department of Agriculture, Cyprus."

In describing the report of the Livestock Officer (which is actually appendix II of the report of the Director of Agriculture and not that of the Chief Veterinary Officer), the *average* lactation yield of Sardinian ewes is given as 291·3 lb. v. 120 lb. for 46 Cyprus fat-tailed ewes. The figure quoted for Sardinian ewes is the *maximum* yield given by one ewe. The figure for *average* yield given in the Livestock Officer's report was 199·5 lb. for 20 ewes. The comparable maximum lactation yield for fat-tailed sheep was 209 lb. but the highest recorded yield in this flock was 342 lb. (Maule: *B.A.B.*, **1**, No. 4, 1948-49). These yields do not include the amount taken by the lamb up to weaning at 11 weeks.—Yours faithfully, J. P. Maule, Director, Commonwealth Bureau of Animal Breeding and Genetics, King's Buildings, West Mains Road, Edinburgh, 9. *October 16th*, 1953.

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R.C.V.S. ANNUAL FEES

Sir,—I am surprised that there have been only two letters criticising the increased annual fee to the R.C.V.S. The memo. which accompanies the demand for the increased fee does not state the reason for the increase, but is nevertheless enlightening in pointing out the discrimination between Ms.R.C.V.S. resident in different areas.

In Eire Ms.R.C.V.S. are requested to pay only £1 1s. and receive more advantages than those who pay £4 4s.

Recently I learned that a prescription from an M.R.C.V.S. not resident in Eire was not acceptable in that country, and I was astonished when the Registrar, R.C.V.S., justified this insult.

This attitude by the Eire Council, if adopted here, would debar many Ms.R.C.V.S. normally resident in Eire from obtaining employment here and the connivance of the R.C.V.S. does not encourage the payment of an annual fee of £4 4s.—Yours faithfully, J. Fox, 15, Thorncliffe Road, Wallasey, Ches. *October 12th*, 1953.

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MEAT INSPECTION SERVICES—PERSONNEL

Sir,—Your reviewer has shown both ignorance and disrespect in his remarks included in the notice of the Annual Report of the Director of Abattoir and Livestock Market Department, City of Johannesburg (*Vet. Rec.*, September 26th, 1953).

He states: "With some of the large municipal abattoirs in Great Britain in the hands of lay meat inspectors, what chance have our students of ever attending a three weeks' course in such subjects?"

Foremost, his attention should be drawn to his misnomer "lay meat inspector." There is no such designation or appointment in this country. Meat inspectors engaged by local authorities are in all cases fully qualified, salaried officers, and are thus entitled to professional status and designation. When veterinarians are employed as meat inspectors and they desire to distinguish themselves as such, by all means let them designate themselves as veterinary meat inspectors. Your reviewer can be assured that we have no fear of comparisons, and much less fear that the distinction will be apparent in anything else but the designation alone.

For the past score years or more the veterinary profession has made repeated and ill-conceived attacks against the meat inspection services of this country. It is pertinent to remind such attackers that when in 1920 the Departmental Committee on Meat Inspection was set up by the Ministry of Health the Royal College of Veterinary Surgeons ignored the invitation extended by the Committee to present either oral or written evidence for consideration. Thus we might well ask the question, whether this comparatively new interest in meat inspection was due to the eventual dethronement of the horse, thus compelling veterinarians to search out new "hunting grounds" for economic reasons only.

The 1949-51 Interdepartmental Committee set up by the Ministry of Food received evidence from all interested professional bodies and made its final and well-considered deliberations. It saw no valid reasons, although pressed hard by the veterinary profession, to change the general arrangement, whereby the bulk of meat inspection was carried out by Public Health Inspectors. In short, it was satisfied beyond all doubt that the job was being done both thoroughly and efficiently.

Meat inspection is a hard, exacting task, demanding personnel who are willing to work long and arduous hours and not a sinecure for a horde of white-coated officials who would like to spend the majority of their time sat in abattoir offices dictating the already well-practised "do's and don'ts" of meat pathology. —Yours faithfully, J. A. McPherson, "Bournside," Wardenhill Road, Cheltenham. *October 3rd*, 1953.

DISEASES OF ANIMALS ACT, 1950—GREAT BRITAIN

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Fowl Pest	Sheep Scab	Swine Fever
16th to 30th September, 1953 ...	15	—	15	—	70
Corresponding period in—1952	97	5	14	—	20
1951	8	—	2	1	81
1950	12	—	—	1	48
1st January to 30th September, 1953...	505	28	737	—	2,290
Corresponding period in—1952	657	491	171	1	692
1951	319	28	601	5	913
1950	277	20	102	21	176

Tuberculosis (Attested Herds) Schemes

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at September 30th, 1953, was as follows:

England	Wales	Scotland	Total (Great Britain)
52,372	28,670	26,943	107,985